We claim:

1. A method of treating pulp with chlorine dioxide according to which chlorine dioxide is mixed in the pulp and the mixture thus produced is fed into a treatment vessel in which the chlorine dioxide treatment is carried out at a temperature of 40 – 90°C and at a pH of 1.5 – 6.5, characterized in that the treatment time in each chlorine dioxide treatment vessel or each chlorine dioxide treatment step is less than 10 minutes, chlorine dioxide is mixed in the pulp by using intensive mixing and the discharge of the pulp from the treatment vessel straight to a chlorine dioxide stage washer is arranged to take place in a closed space ensuring that no detrimental amounts of residual dioxide remain in the pulp flowing to the washer.

2. A method as claimed in claim 1, characterized in that when pulp is being discharged from the treatment vessel, chemical is added into the pulp to deactivate the residual dioxide.

3. A method as claimed in claim 2, characterized in that the chemical addition mentioned is performed with a fluidizing high-intensity mixer.

4. A method as claimed in claim 3, characterized in that the high-intensity mixer mentioned is a static mixer or a valve over which an adequate pressure difference is ensured.

5. A method as claimed in claim 3, characterized in that the high-intensity mixer mentioned is a fluidizing discharger or a fluidizing centrifugal pump serving as a discharger.

6. A method as claimed in claim 1, characterized in that the chlorine residue is determined from the pulp at the end of the treatment vessel or after the treatment vessel.

7. A method as claimed in claim 6, characterized in that the chlorine residue is used to adjust a parameter influencing the speed of the bleaching reaction, for example temperature, pressure, or the revolution speed of the mixer.

8. A method as claimed in claim 7, characterized in that the chlorine residue is used to adjust the temperature which is used to control the chlorine dioxide bleaching reaction to last for substantially the retention time from the mixer to the treatment vessel discharge.

9. A method as claimed in claim 1 or 2, characterized in that the treatment is carried out in several steps.

10. A method as claimed in claim 9, characterized in that the dioxide stage is two-stepped, whereby about 5 – 25 kg/adt of chlorine dioxide calculated as active chlorine is dosed into each treatment step.

11. A method as claimed in claim 1, characterized in that the pulp to be treated is pulp, which has been screened and washed, or screened, washed and oxygen bleached, or screened, washed and ozone treated after digestion.

12. A method as claimed in claim 1, characterized in that the chlorine dioxide treatment in question is a bleaching D_o stage removing lignin.

13. A method as claimed in claim 1, characterized in that, when mixing dioxide into the pulp, intensive mixing compensates temperature whereby the dioxide treatment may be performed at a lower temperature than conventionally.

14. A method as claimed in claim 1, characterized in that the chlorine dioxide concentration in the fiber suspension liquid phase is substantially throughout the whole treatment less than 2.5 kg/l calculated as active chlorine.

15. A method as claimed in claim 1, characterized in that the volume of the detrimental residual dioxide depends on the material of the washer used, which residual dioxide volume may be determined both experimentally and based on studies to a level ensuring adequate life.

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